NRCS

United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report January 1, 2011

Snow draped trees against azure skies near Mores Creek Summit in the Boise Basin, December 21, 2010

Bluebird days, like the one pictured above, might be a rare occurrence this winter thanks to a strong La Nina in the equatorial Pacific Ocean. La Nina's are signaled by colder than normal ocean temperatures off the coast South America. This year is one of the strongest La Nina's in the last 50 years. Long range weather forecasts for the Pacific Northwest call for above normal precipitation and a greater number of storms than is typical during an average winter. Currently snowpacks across Idaho range from about 90-150% of average. Similar La Nina years include 1956, 1966, 1971, 1974, 1999 and 2008; each of these analog years produced greater than average summer runoff for Idaho.

Basin Outlook Reports
and Federal - State – Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

JANUARY 1, 2011

SUMMARY

The water year is off to a great start with the strong La Nina storm track bringing storms into the Western US as expected. However, this year's strong La Nina pattern pushed December's storms farther south into California, Nevada and Utah. As of January 1, the highest snowpacks in the West are in southern Utah at 250-300% of average with a few stations already nearing their normal April 1 seasonal peaks. The lowest snowpacks are along the Arizona and New Mexico border at 65% of average. The southern storm track brought less moisture to basins along the Canadian border from Seattle to central Montana where they are 85-115% of average. Idaho's southern basins were on the edge of the storm track giving the Bear River basin the highest snowpack in the state at 149% of average. Other basins in southern Idaho range from 155% of average in the Bruneau to 129% in the Snake headwaters. North of the Snake River, the snowpacks drop to 127% of average in the Big Lost and adjacent basins and then decrease to 110% in the Salmon basin. The Panhandle Region and Clearwater basin have the lowest snowpacks in the state ranging from 82-98%.

Combining the recent storms with above normal fall moisture and near average reservoir carryover storage, the stage is set for adequate, if not plentiful, water supplies in Idaho this year. Streamflow forecasts mirror the snowpacks and call for 87-154% of average across the state. The overall water supply is off to a great start and the future looks promising with the La Nina forecast.

SNOWPACK

The Salmon River basin is the dividing zone for the state, with above average snowpacks to the south and below average to the north. Pockets of above average snowpacks are found in mid-elevations sites such as Bogus Basin Road (222% of average) and Camas Creek Divide near Fairfield (173% of average). Traditionally, 40% of the snow accumulation season has occurred by January 1, while the mid-point of the accumulation season typically occurs by January 15. Likewise, 60% of the snow accumulation season occurs by February 1, 80% by March 1 and 100% by April 1. Currently, Idaho's northern basins are at 40% of their April 1 seasonal snowpack peaks, while southern basins such as the Bruneau and Bear are at 60% of their seasonal peaks. As a result, the snowpacks in Idaho's southern basins are in very good shape even with dry periods occurring during future months.

PRECIPITATION

Since water year 2011 started in October, every basin in the state has received average or better monthly precipitation amounts with the exception of November, when lower than average precipitation occurred in the northern half of the state. December contributed even more precipitation than the previous months as 173% of average occurred in the Bear River basin and 106% of average falling in the Panhandle Region. As a result, water year-to-date precipitation amounts received since October 1 range from 164% of average in the Bear and Southside Snake River basins to 104% in the Clearwater basin. This also means that the soils were recharged with moisture prior to the onset of the snowpack. Snow surveyors sampling in late December and early January reported finding damp ground under the snowpack which points towards some moisture being in the soil profile for the snowmelt season.

RESERVOIRS

Most of Idaho's reservoir systems are storing average or better amounts for a change, with the exception of those south of the Snake River. The lowest storage is about 55% of average in Owyhee Reservoir and Bear Lake, both of which are approximately one-third full. Oakley and Salmon Falls reservoirs are 60% and 70% of average, respectively, which corresponds to 20% of capacity for both reservoirs. Wildhorse Reservoir is 78% of average (41% of capacity). These southern reservoirs are large storage systems that require several consecutive wet years to reach capacity. For the Owyhee and adjacent Malheur basins in Oregon, local water managers point to spring rainfall as being the key driver of runoff, regardless of the snowpack or antecedent soil conditions.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Last year, streams were a challenge to forecast because of the low snow levels and abundant rain events in June. The low snowpack had kept the streamflow forecasts looking grim for summer water supplies, but as soon as the several rainy June days occurred (with several inches falling on the melting snowpack in several basins), Idaho's rivers and lakes began to rise rapidly. The relatively cool and wet summer kept the irrigation demands down and the streamflow up, and most water users got through the irrigation season. This year, the water supply picture is starting off much better as compared to last year due to a combination of above average snowpacks, above average fall precipitation and ample soil moisture. Current streamflow forecasts call for about 90-100% of average in the Panhandle region as well as the Salmon and Clearwater basins. Forecasts of 95-110% of average are predicted for the basins extending from the Weiser River to the central mountains and the Henrys Fork. The Upper Snake River streams are forecast at 110-130% of average. Streams across Idaho's southern border call for 150% of average for the Owyhee River and Salmon Falls Creek, 140% for the Bruneau River, and about 115% for Oakley Reservoir inflow. For the first time in a while, the Bear River below Stewart Dam is forecast well above average at 137% of average for the April through September period.

Note: Forecasts published in this report are NRCS forecasts. NRCS uses timely SNOTEL data to provide streamflow forecasts. Jointly coordinated published forecasts by the USDA NRCS and the NOAA NWS are available from the joint west-wide Water Supply Outlook for the Western US at http://www.wcc.nrcs.usda.gov/wsf/westwide.html. Water users may wish to use a lesser exceedance forecast to reduce the risk of coming up water short or greater volume to mitigate high flow potential.

RECREATION

It's been a great winter for recreation almost everywhere in the western US except parts of New Mexico. The Ski West SNOTEL Report (http://www.wcc.nrcs.usda.gov/reports/UpdateReport.html?report=Ski+West+Report) shows that SNOTEL sites near most western ski resorts currently have average to above average snowpacks. Some ski resorts are posting very impressive numbers. With over 225% of average snow, the Lake Tahoe region of California is having one of its best starts on record. Further south, Mammoth Mountain on the east side of the Sierra Nevada, received 209 inches (over 17 feet) of snowfall during December alone; this is a new monthly record based on 40 years of measurements by the resort. Elsewhere snowpacks are pushing 300% of normal in Southern Utah, and Colorado boasts snowpacks of about 150% of normal. Closer to home, powerful storms pummeled central Idaho between Christmas and New Years with 3-4 feet of snow. Cold temperatures after the storm kept the snow light and sunny skies made for picture perfect conditions. Most Idaho ski resorts have between 100-130% of their average amounts for January 1st. The only exception is Lookout Pass in Northern Idaho which has about 80% of its average snowpack, but that is still plenty of snow for great skiing. Cooler than normal water in the equatorial Pacific Ocean indicates that a strong La Nina is in play this year, which typically favors the Northwest while conditions deteriorate the further south you go. This year is a bit anomalous with the storm track favoring the middle of the country with California, Oregon, Nevada, Southern Idaho and Wyoming, Utah, and Colorado seeing the most snow. Snow in Washington, northern Idaho and Montana is actually a little below average. This La Nina pattern is expected to continue in mid-winter, so there is still time for the Pacific Northwest to get its due. Deeper than normal snowpack across most of Idaho is good news for backcountry recreationists. Although it may be counterintuitive, a winter with lots of snow generally produces a stronger, less avalanche prone, snowpack. Last year a shallow, weak snowpack led to sensitive conditions that persisted throughout the winter. This year the snowpack doesn't contain the same early season weak layers. Keep in mind conditions change with time, so it's a good bet to keep informed at www.avalanche.org. Hopefully the La Nina will shift the storm track directly over Idaho as we move into the heart of winter and with it the glory that is generated by the elusive "powder day".

SNOW COURSES PROPOSED FOR DISCONTINUATION

The NRCS Snow Survey will be discontinuing eight snow courses starting this winter. The following stations are highly correlated (R2>0.90) to either a co-located or nearby SNOTEL site: (1) Smith Creek, Boundary County - Replaced by Hidden Lake SNOTEL, (2) Moscow Mountain, Latah County - Replaced by Moscow Mountain SNOTEL, (3) Squaw Meadow, Valley County - Replaced by Secesh Summit SNOTEL, (4) Schwartz Lake, Lemhi County - Replaced by Schwartz Lake SNOTEL and (5) Silver City, Owyhee County – Replaced by South Mountain SNOTEL. In addition, (6) Thorson Cabin Snow Course, Washington County, is being moved at the request of the land owner and will be replaced by Thorson Cabin #2. Furthermore, the following sites have difficult or unsafe access: (7) Corner Creek (Hayden basin) is highly correlated to Fourth of July Summit Snow Course; and (8) Sage Creek Saddle (Hayden Basin) is highly correlated to Lower Sand Creek #2. For a detailed description of the analysis that goes into the decision to discontinue these stations please see the Idaho Fall 2010 Summary. Analyzing and optimizing the NRCS snow data collection network in Idaho is an ongoing effort to achieve multiple objectives related to the best use of agency and cooperative resources.

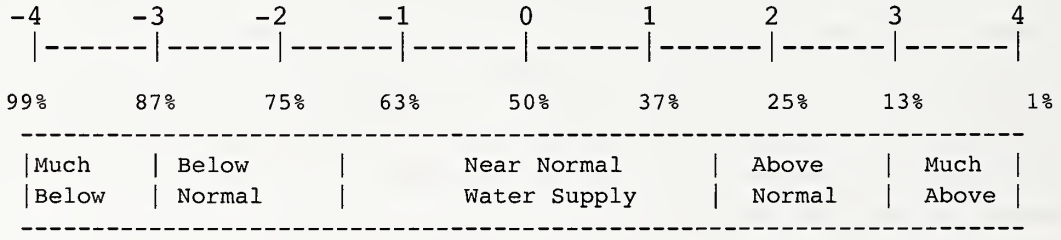
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) JANUARY 1, 2011

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1971 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
CLEARWATER	0.3	2006	NA
SALMON	-0.1	2010	NA
WEISER	0.2	2010	NA
PAYETTE	0.2	2008	NA
BOISE	1.2	2008	-1.8
BIG WOOD	1.2	1996	0.1
LITTLE WOOD	1.0	2005	-1.9
BIG LOST	0.6	2009	0.0
LITTLE LOST	0.2	2010	0.6
TETON	1.6	2008	NA
HENRYS FORK	0.9	2006	-3.4
SNAKE (HEISE)	1.4	2009	-1.8
OAKLEY	0.4	2000	-0.5
SALMON FALLS	2.4	2006	-1.2
BRUNEAU	3.3	2006	NA
OWYHEE	2.2	1998	-3.5
BEAR RIVER	-0.6	2007	-2.8

SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

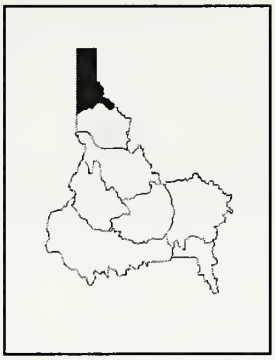


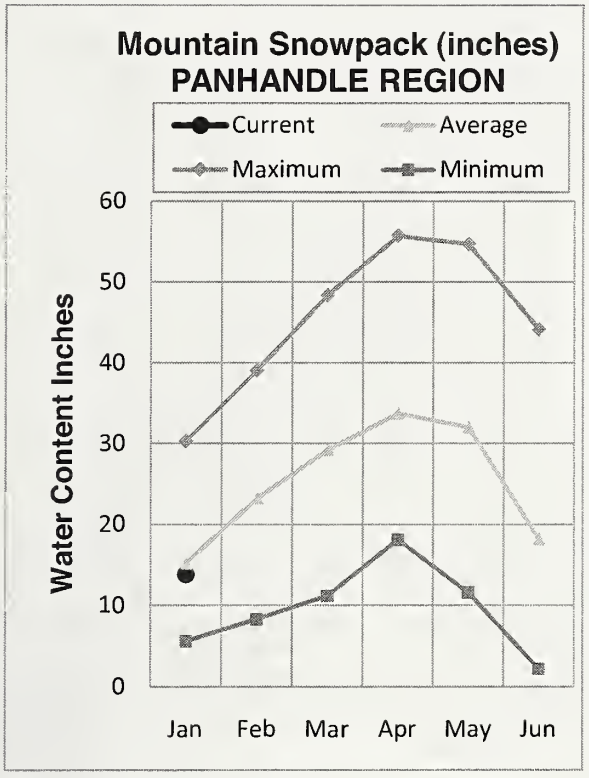
NA = Not Applicable

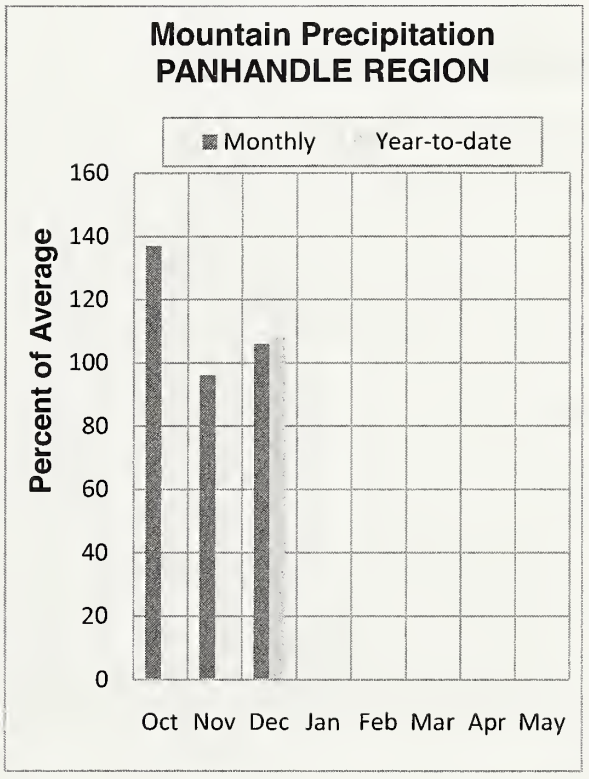
Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION

JANUARY 1, 2011







WATER SUPPLY OUTLOOK

For the past few years, winter weather in northern Idaho has been inconsistent. Just two years ago in 2008, snow loads collapsed roofs with record high snow in the valleys followed by near record low snowpacks last year until April and May became the new winter! For this year, the forecasts call for above normal precipitation for the Pacific Northwest. However, as of January 1 the Panhandle region's snowpack is 91% of average overall and is lagging behind southern Idaho. The lowest snowpacks are found in the St. Joe River drainage at 82% of average with the highest in the Pend Oreille River basin at 105%. It is too early in the season to be sure of the winter weather, but it wouldn't take but a few good storms for this region to catch up. For example, a major snow storm that moved through the last week of December bumped up the monthly precipitation to 106% of average for the entire Panhandle region. The lakes in this region are all about half full and that is average or better for this time of year. April through July streamflow forecasts range from near 90% where the snow is the lowest in the Kootenai and Moyie rivers to right at average for the Spokane, St. Joe and the rest.

PANHANDLE REGION
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Kootenai R at Leonia (1,2)	APR-JUL	4820	5880	6360	90	6840	7900	7040
	APR-SEP	5730	6800	7290	90	7780	8850	8120
Moyie River at Eastport	APR-JUL	220	300	355	88	410	490	405
	APR-SEP	230	310	365	87	420	500	420
Smith Ck nr Porthill	APR-JUL	71	96	113	92	130	155	123
	APR-SEP	71	99	118	92	137	165	129
Boundary Creek nr Porthill	APR-JUL	81	100	113	92	126	145	123
	APR-SEP	84	104	117	91	130	150	129
Clark Fork R at Whitehorse Rapids (1	APR-JUL	8210	10500	11500	102	12500	14800	11300
	APR-SEP	9240	11600	12700	102	13800	16200	12500
Pend Oreille Lake Inflow (2)	APR-JUL	10100	11800	12900	102	14000	15700	12700
	APR-SEP	11200	13000	14200	102	15400	17200	13900
Priest R nr Priest River (1,2)	APR-JUL	515	725	820	101	915	1130	815
	APR-SEP	545	770	870	100	970	1190	870
NF Coeur d'Alene R at Enaville	APR-JUL	444	620	740	100	860	1036	740
	APR-SEP	480	659	780	100	901	1080	780
St. Joe R at Calder	APR-JUL	778	982	1120	98	1258	1462	1140
	APR-SEP	841	1049	1190	99	1331	1539	1200
Spokane R nr Post Falls (2)	APR-JUL	1620	2150	2520	99	2890	3420	2550
	APR-SEP	1700	2250	2620	99	2990	3540	2650
Spokane R at Long Lake (2)	APR-JUL	1747	2356	2770	97	3184	3793	2850
	APR-SEP	1943	2572	3000	98	3428	4057	3070

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2945.0	2894.0	2420.9
FLATHEAD LAKE	1791.0	1187.0	1209.0	1192.7
NOXON RAPIDS	335.0	317.2	314.2	315.8
PEND OREILLE	1561.3	880.5	545.6	673.4
COEUR D'ALENE	238.5	134.2	41.3	110.1
PRIEST LAKE	119.3	53.6	55.5	55.7

PANHANDLE REGION
Watershed Snowpack Analysis - January 1, 2011

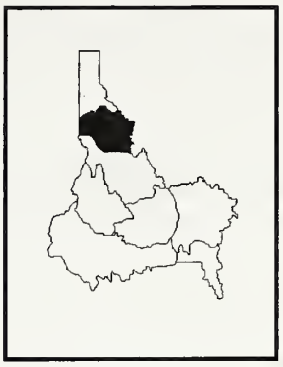
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	7	120	94
Moyie River	1	110	89
Priest River	4	126	98
Pend Oreille River	59	140	105
Rathdrum Creek	3	159	96
Hayden Lake	0	0	0
Coeur d'Alene River	6	176	98
St. Joe River	4	149	82
Spokane River	13	162	91
Palouse River	1	200	102

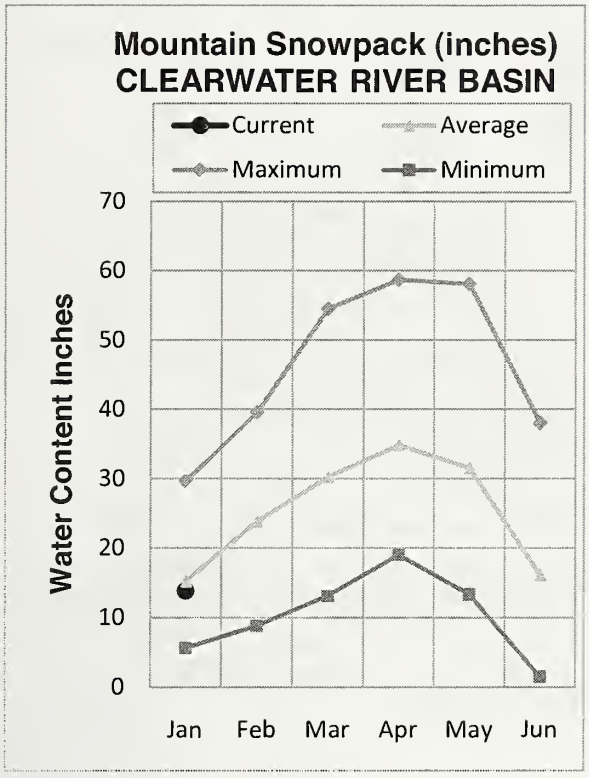
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

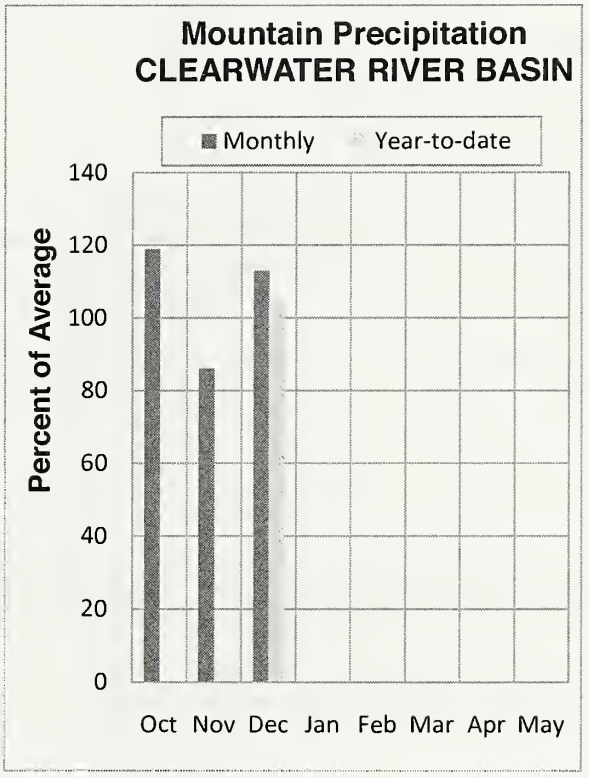
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN

JANUARY 1, 2011







WATER SUPPLY OUTLOOK

The strong La Nina this year has not produced the expected results yet for the Clearwater. The storm track has favored California and the southern Rockies from the beginning of the water year. Similar to Idaho's Panhandle region, the Clearwater basin snowpack is only around 90% of normal on January 1, but was only 62% of average last January 1. There is plenty of winter left to catch up so there are no red flags in the water supply arena yet. Last week's storm brought good snowfall that left December precipitation at 113% of average. Dworshak Reservoir is storing similar amounts to last year (67% full, 94% of average) even though the snowpack was much lower last year. As of January 1, the April through July volume forecasts are calling for just below average amounts, 90–99%, for the winter season. This prediction is based on the 50% exceedance forecasts, which is a middle of the road forecast. The NRCS provides a range of forecasts that can occur based on the forecast equation accuracy. These predictions are in the tables in this document. If the weather eventually brings the expected above average snowpacks, then users may we wish to use the larger streamflow forecasts, the 10% or 30% chance of exceedance volumes. These forecasts are based on current conditions and users must consider the variable future precipitation. For instance, last spring's precipitation resulted in rivers rising rapidly and remaining high unexpectedly for several weeks.

CLEARWATER RIVER BASIN
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Selway R nr Lowell	APR-JUL	1430	1730	1940	94	2150	2450	2060
	APR-SEP	1520	1830	2040	94	2250	2560	2170
Lochsa R nr Lowell	APR-JUL	1025	1254	1410	92	1566	1795	1530
	APR-SEP	1095	1324	1480	92	1636	1865	1610
Dworshak Res Inflow (1,2)	APR-JUL	1500	2250	2600	99	2950	3700	2640
	APR-SEP	1630	2400	2750	98	3100	3870	2800
Clearwater R at Orofino (1)	APR-JUL	2800	3850	4330	93	4810	5860	4650
	APR-SEP	2960	4070	4570	93	5070	6180	4900
Clearwater R at Spalding (1,2)	APR-JUL	4700	6390	7150	96	7910	9600	7430
	APR-SEP	4920	6690	7500	96	8310	10100	7850

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2333.8	2149.0	2481.4

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - January 1, 2011

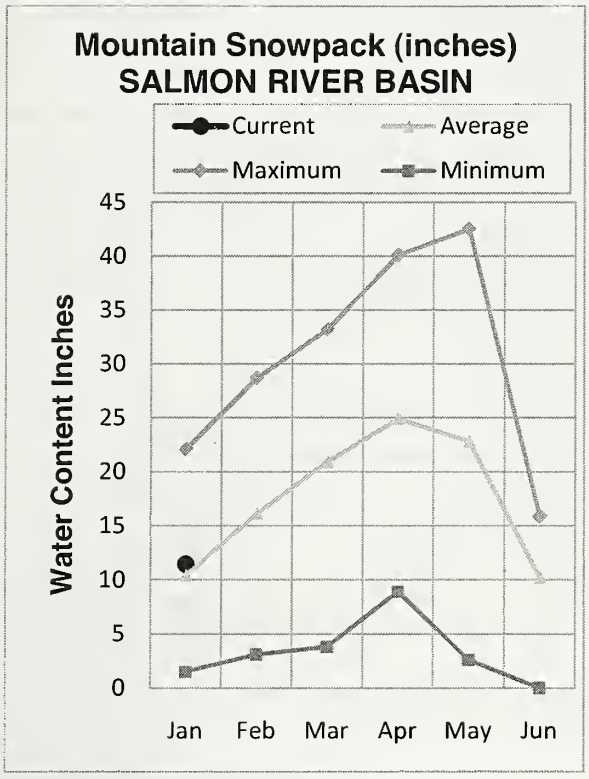
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	145	91
Lochsa River	3	149	96
Selway River	4	151	92
Clearwater Basin Total	16	148	93

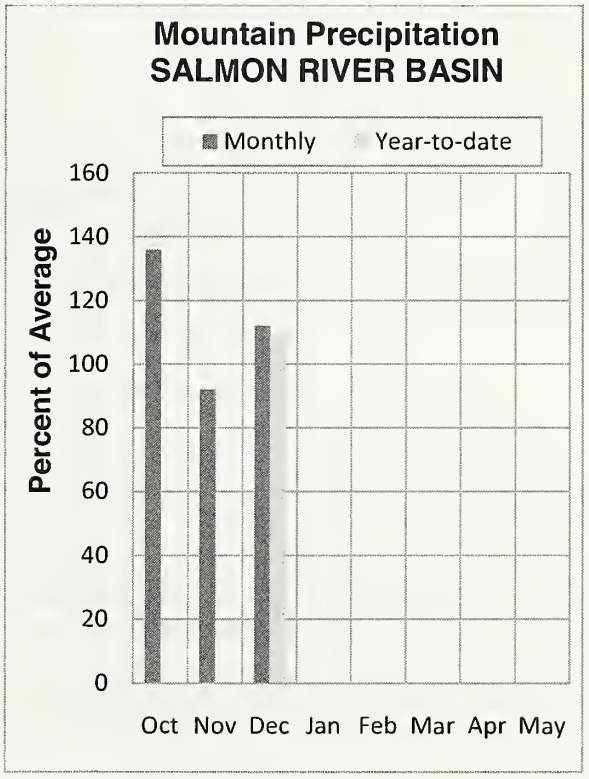
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN

JANUARY 1, 2011





WATER SUPPLY OUTLOOK

The Salmon River basin snowpack is just above average at 110%, while last January the snowpack was a meager 68%. This past summer was relatively cool and was followed by above average rain during the fall that increased soil moisture. These are ideal initial conditions for efficient spring runoff. The looming question may be: will the Salmon River experience the high flows like last year? The answer is: it depends on how much snow the mountains end up with by spring, how rapid it melts and if a lot of rain falls during snowmelt, all of which ultimately led to the Middle Fork of the Salmon River reaching "beyond extremely hazardous conditions". As of January 1, the seasonal April through July volume forecast calls for near average amounts for the River of no Return and its tributaries. However, this forecast does not include information regarding peak streamflows.

SALMON RIVER BASIN
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Salmon R at Salmon (1)	APR-JUL	450	720	840	98	960	1230	855
	APR-SEP	530	835	975	98	1110	1420	1000
Lemhi R nr Lemhi	APR-JUL	40	60	76	88	94	123	86
	APR-SEP	51	75	93	89	113	147	105
MF Salmon R at MF Lodge	APR-JUL	525	720	855	109	990	1190	785
	APR-SEP	585	800	945	108	1090	1310	875
Salmon R at White Bird (1)	APR-JUL	3390	4980	5710	98	6440	8030	5850
	APR-SEP	3780	5520	6310	97	7100	8840	6480

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - January 1, 2011

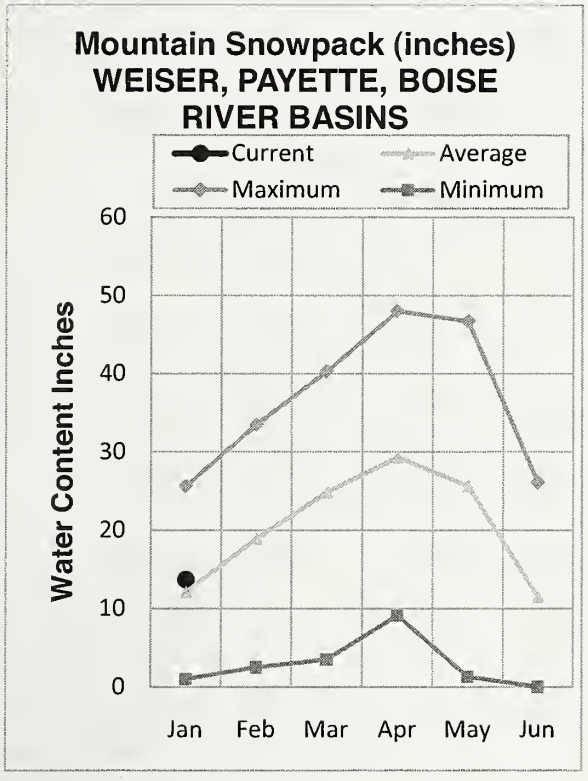
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	8	177	108
Lemhi River	6	133	110
Middle Fork Salmon River	3	201	109
South Fork Salmon River	3	185	115
Little Salmon River	4	152	108
Salmon Basin Total	23	163	110

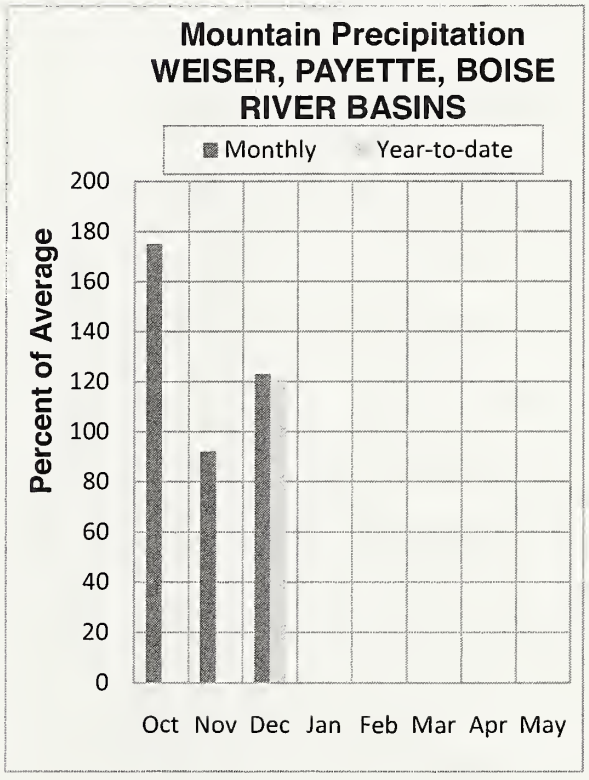
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS

JANUARY 1, 2011





WATER SUPPLY OUTLOOK

The 2011 water year is off to a great start. Water year-to-date precipitation stands at 120% of normal as of January 1, and snowpacks range from about 115% of normal in the Payette and Weiser basins to 128% in the Boise basin. This year's La Nina storm track is a welcome change and provides a stark contrast to last New Year's when snowpacks were 63-76% of a normal. Some lower-elevation stations have near record amounts of snow; these include the Bogus Basin Road snow course at 5540 feet which is at its fourth greatest snow amount in 55 years of measurements and the Prairie SNOTEL at 4800 feet where the snowpack is at its 5th greatest value out of 24 years of measurement. October provided a wet start to winter with the Payette and Weiser basins recording 154-174% of average monthly precipitation, while the Boise basin was closer to 200% of average for the month of October. The southern portion of the Boise basin had the greatest October precipitation totals with Trinity Mountain, Prairie and Camas Creek SNOTELs each receiving 220-240% of average amounts for the month. November featured drier conditions with near average precipitation across the region. Late November and December brought cool temperatures and abundant precipitation. December precipitation was 120% of average in the Payette and Boise basins and 135% in the Weiser. Combined reservoir storage is 100% of average in the Boise and Payette systems. In the Boise system, flows were diverted around the power plant prior to Christmas to allow for maintenance. Boise River flows will be held at 800 cfs until January 14th in order to release 15,000 acre-feet that Idaho Power leased from irrigators for power generation. Summer streamflow volumes across the region are forecast between 100-110% of average. At this point the water supply looks very promising for 2011; let's hope the La Nina storm track continues to bring snow to Idaho's central mountains.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Weiser R nr Weiser (1)	FEB-JUL	240	515	675	104	855	1330	650
	APR-JUL	143	310	405	104	515	800	390
	APR-SEP	160	335	435	104	550	845	420
SF Payette R at Lowman	APR-JUL	295	380	440	100	505	610	440
	APR-SEP	340	430	500	101	575	690	495
Deadwood Res Inflow (1,2)	APR-JUL	84	124	143	107	162	200	134
	APR-SEP	89	133	153	108	173	215	142
Lake Fk Payette R nr McCall	APR-JUL	62	76	86	101	97	113	85
	APR-SEP	64	78	89	100	100	118	89
NF Payette R at Cascade (1,2)	APR-JUL	270	445	525	101	605	780	520
	APR-SEP	270	455	540	100	625	810	540
NF Payette R nr Banks (2)	APR-JUL	450	585	675	100	765	900	675
	APR-SEP	455	600	695	99	790	935	700
Payette R nr Horseshoe Bend (1,2)	APR-JUL	990	1460	1670	102	1880	2350	1640
	APR-SEP	1090	1570	1790	102	2010	2490	1760
Boise R nr Twin Springs (1)	APR-JUL	405	600	690	109	780	975	635
	APR-SEP	445	650	745	108	840	1050	690
SF Boise R at Anderson Ranch (1,2)	APR-JUL	295	500	590	109	680	885	540
	APR-SEP	315	530	625	108	720	935	580
Mores Ck nr Arrowrock Dam	APR-JUL	74	111	140	107	173	227	131
	APR-SEP	77	116	146	107	180	236	137
Boise R nr Boise (1,2)	APR-JUN	895	1230	1380	110	1530	1870	1260
	APR-JUL	940	1350	1540	109	1730	2140	1410
	APR-SEP	995	1450	1650	108	1850	2300	1530

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	2.2	0.9	3.3
CASCADE	693.2	438.9	430.0	456.4
DEADWOOD	161.9	98.9	92.6	82.5
ANDERSON RANCH	450.2	320.2	303.1	296.8
ARROWROCK	272.2	168.5	164.7	173.1
LUCKY PEAK	293.2	79.2	78.8	95.5
LAKE LOWELL (DEER FLAT)	165.2	122.6	114.5	98.4

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - January 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	141	126
Weiser River	3	151	113
North Fork Payette	7	162	114
South Fork Payette	5	187	111
Payette Basin Total	13	176	115
Middle & North Fork Boise	5	189	121
South Fork Boise River	7	164	125
Mores Creek	5	201	137
Boise Basin Total	14	176	126
Canyon Creek	2	133	175

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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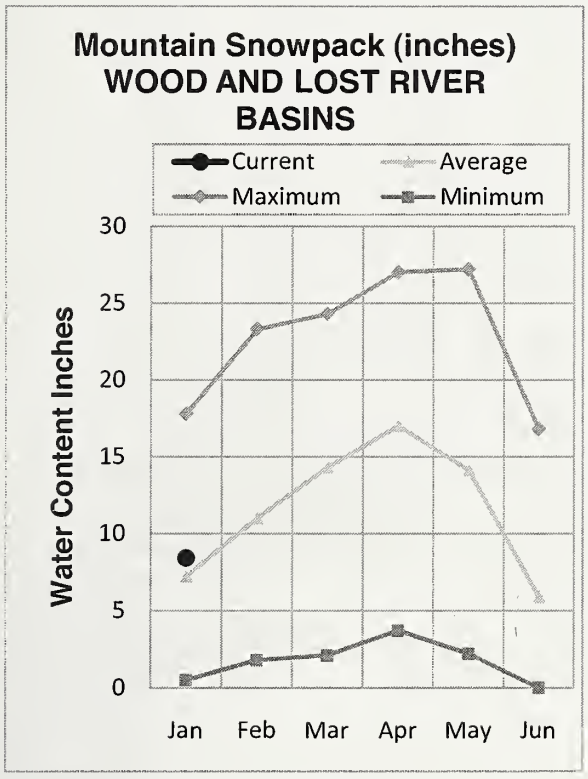
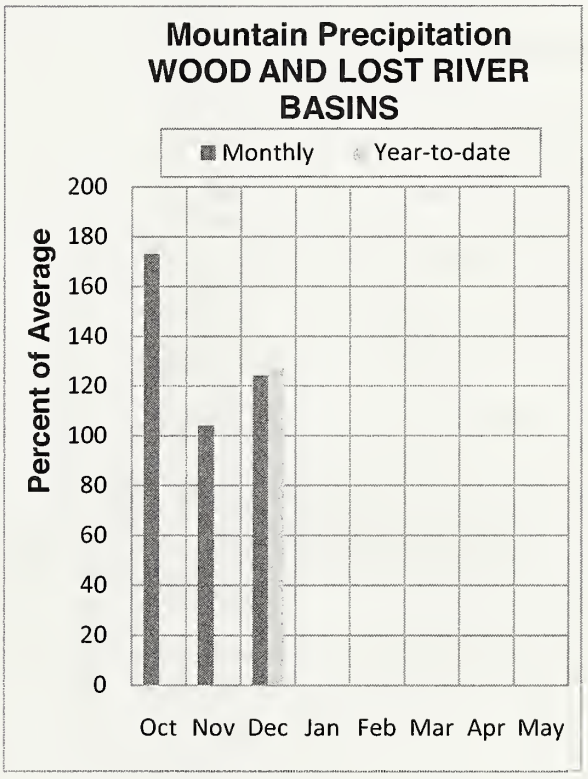
WOOD and LOST RIVER BASINS

JANUARY 1, 2011





WATER SUPPLY OUTLOOK

Although it's early winter, the water supply in the Wood and Lost basins looks promising for 2011. Water year to date precipitation since October is 127% of normal for the region. Monthly precipitation has remained above average for the past three months; October had 173%, November 104% and December 124%. Like the rest of the state, the Wood and Lost mountains are benefitting from the La Nina conditions in the equatorial Pacific. Snow has been accumulating at a faster than normal pace since mid-November. Snowpacks this January are more than twice the size of last January and range from about 115% of average in the Big Wood and Little Lost basins to about 130% in the Little Wood and Big Lost basins. Reservoir carry-over amounts are average in Magic, 116% in Little Wood and 135% in Mackay. Streamflows in this region are forecast around 100 – 110% of average. With the good carry-over reservoir storage and well above average snowpacks, the water supply should be adequate as long as La Nina continues to deliver snow.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<== Drier == Future Conditions == Wetter ==>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Big Wood R at Hailey (1)	APR-JUL	102	220	275	108	330	450	255
	APR-SEP	118	250	310	107	370	500	290
Big Wood R ab Magic Res	APR-JUL	83	156	205	108	255	325	190
	APR-SEP	94	172	225	110	280	355	205
Camas Ck nr Blaine	APR-JUL	22	56	87	87	125	195	100
	APR-SEP	23	56	88	87	127	196	101
Big Wood R bl Magic Dam (2)	APR-JUL	100	215	290	100	365	480	290
	APR-SEP	118	235	315	103	395	510	305
Little Wood R ab High Five Ck	MAR-JUL	41	69	92	108	118	163	85
	MAR-SEP	44	74	99	108	127	175	92
Little Wood R nr Carey (2)	MAR-JUL	46	79	101	105	123	156	96
	MAR-SEP	49	84	107	103	130	165	104
Big Lost R at Howell Ranch	APR-JUL	99	143	177	102	215	280	173
	APR-SEP	111	161	200	102	245	315	197
Big Lost R bl Mackay Res	APR-JUL	63	108	138	98	168	215	141
	APR-SEP	79	132	169	98	205	260	172
Little Lost R nr Howe	APR-JUL	18.2	25	30	97	36	45	31
	APR-SEP	22	31	37	95	44	55	39

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	80.3	74.7	79.7
LITTLE WOOD	30.0	16.3	18.7	14.1
MACKAY	44.4	32.0	32.0	23.7

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - January 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	8	172	110
Camas Creek	3	158	162
Big Wood Basin Total	11	169	118
Fish Creek	0	0	0
Little Wood River	5	250	127
Big Lost River	5	237	127
Little Lost River	3	196	114
Birch-Medicine Lodge Cree	2	132	122
Camas-Beaver Creeks	4	306	123

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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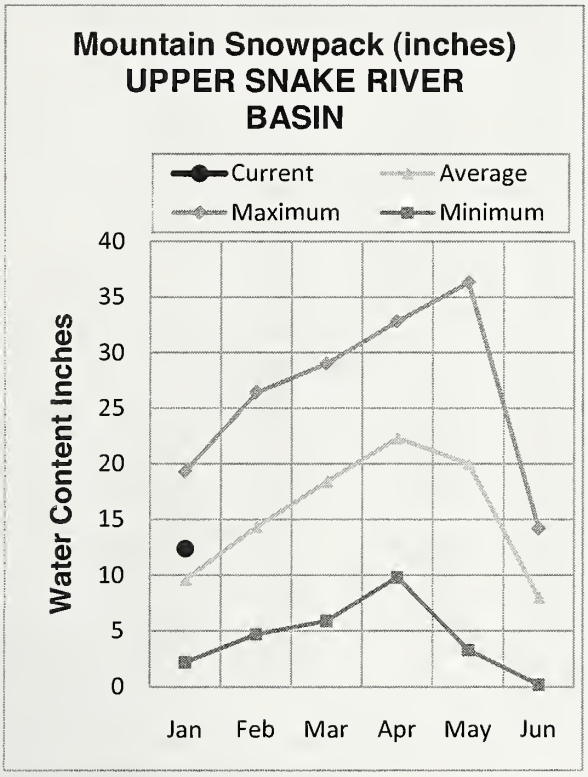
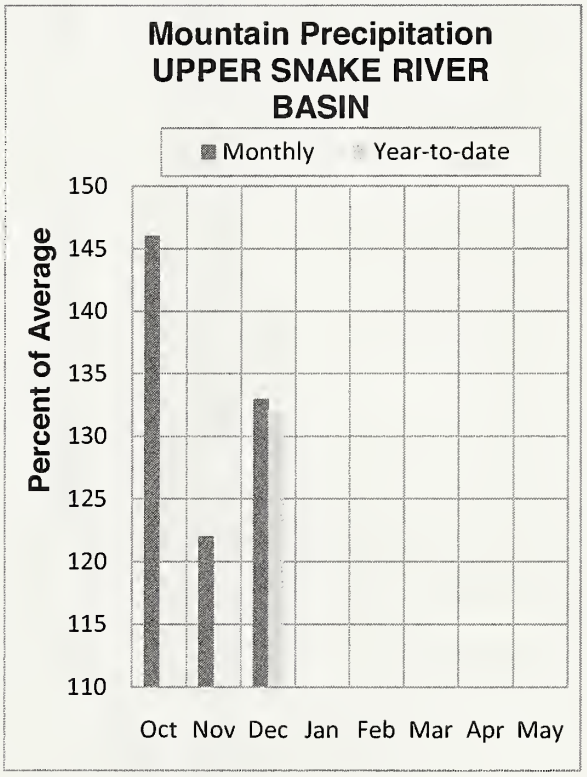
UPPER SNAKE BASIN

JANUARY 1, 2011





WATER SUPPLY OUTLOOK

The contrast between this winter and last winter shows the differing effects of El Nino and La Nina on the Upper Snake. This winter's La Nina snowpack is already surpassing the near record low April 1 snowpack that last year's El Nino pattern produced. Water year to date precipitation at New Year's was 132% of average, twice as much as last January. Monthly precipitation in October was 146% of average, about the same as last year; November brought 122% the average amount, nearly four times last November's precipitation; and December brought 133%, over twice last December. Snowpacks range from 120% of average in the Hoback drainage, to 128% for the area above Jackson Lake, to 145% in the Portneuf drainage. The snow index for the Henry's Fork snowpack above Island Park indicates that snowpacks are 7th highest out of 51 years. The Snake River above Jackson Lake is similar, 10th highest out of 51 years. Collectively, reservoir storage is normal for the eight reservoirs in the Upper Snake system. Jackson Lake has the best storage at 137% of average and Palisades is currently the lowest at 78%. Streamflow forecasts call for 116% of average amounts for the Snake River at Heise and just slightly above average amounts for the Henrys Fork and Portneuf Rivers. The greatest forecasts are for about 130% for the Salt, Gros Ventre, and Pacific Creek drainages. With decent reservoir storage and an excellent early season snowpack, La Nina is helping water users breathe easier this year; hopefully the current pattern continues.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Henrys Fk nr Ashton (2)	APR-JUL	435	535	605	106	680	800	570
	APR-SEP	595	705	790	103	875	1010	765
Henrys Fk nr Rexburg (2)	APR-JUL	1340	1510	1630	105	1750	1920	1560
	APR-SEP	1760	1950	2080	104	2210	2400	2010
Falls R nr Ashton (2)	APR-JUL	315	365	405	107	445	510	380
	APR-SEP	380	440	485	108	530	605	450
Teton R nr Driggs	APR-JUL	129	169	200	121	235	285	165
	APR-SEP	163	210	250	119	290	355	210
Teton R nr St. Anthony	APR-JUL	285	370	435	107	505	615	405
	APR-SEP	345	445	520	108	600	730	480
Snake R at Flagg Ranch	APR-JUL	440	525	580	117	635	720	495
	APR-SEP	490	580	640	117	700	790	545
Snake R nr Moran (1,2)	APR-JUL	676	868	955	117	1042	1234	815
	APR-SEP	740	953	1050	116	1147	1360	905
Pacific Ck at Moran	APR-JUL	164	200	225	132	250	285	171
	APR-SEP	173	210	235	132	260	295	178
Buffalo Fork ab Lava nr Moran	APR-JUL	275	320	350	116	380	425	301
	APR-SEP	315	365	400	116	435	485	344
Gros Ventre R at Kelly	APR-JUL	164	230	275	138	320	385	200
	APR-JUL	164	230	275	138	320	385	200
Snake R ab Res nr Alpine (1,2)	APR-JUL	1790	2410	2690	114	2970	3590	2370
	APR-SEP	2060	2760	3080	113	3400	4100	2730
Greys R nr Alpine	APR-JUL	290	350	390	115	430	490	340
	APR-SEP	340	410	455	115	500	570	395
Salt R nr Etna	APR-JUL	300	390	450	132	510	600	340
	APR-SEP	365	470	540	129	610	715	420
Snake R nr Irwin (1,2)	APR-JUL	2900	3560	3860	116	4160	4820	3330
	APR-SEP	3360	4100	4440	115	4780	5520	3870
Snake R nr Heise (2)	APR-JUL	3330	3810	4130	116	4450	4930	3560
	APR-SEP	3860	4400	4770	115	5140	5680	4160
Willow Ck nr Ririe (2)	MAR-JUL	80	103	118	134	133	156	88
Blackfoot R ab Res nr Henry	APR-JUN	44	68	87	119	109	144	73
Portneuf R at Topaz	MAR-JUL	56	76	92	103	109	137	89
	MAR-SEP	68	92	110	101	130	162	109
Snake R at Neeley (1,2)	APR-JUL	2240	3430	3970	123	4510	5700	3240
	APR-SEP	2330	3620	4200	120	4780	6070	3510

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	86.4	84.9	82.5
ISLAND PARK	135.2	91.7	108.6	96.1
GRASSY LAKE	15.2	12.7	12.5	11.6
JACKSON LAKE	847.0	658.1	628.7	481.7
PALISADES	1400.0	811.4	1066.3	1036.5
RIRIE	80.5	40.2	38.1	34.5
BLACKFOOT	348.7	198.4	191.7	215.3
AMERICAN FALLS	1672.6	1059.5	1204.2	986.6

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - January 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	7	222	130
Teton River	7	249	123
Henrys Fork above Rexburg	14	233	127
Snake above Jackson Lake	5	209	128
Pacific Creek	2	201	135
Gros Ventre River	3	246	129
Hoback River	5	285	120
Greys River	4	220	124
Salt River	3	231	133
Snake above Palisades	18	239	128
Willow Creek	7	225	141
Blackfoot River	3	232	130
Portneuf River	3	347	145
Snake abv American Falls	32	238	132

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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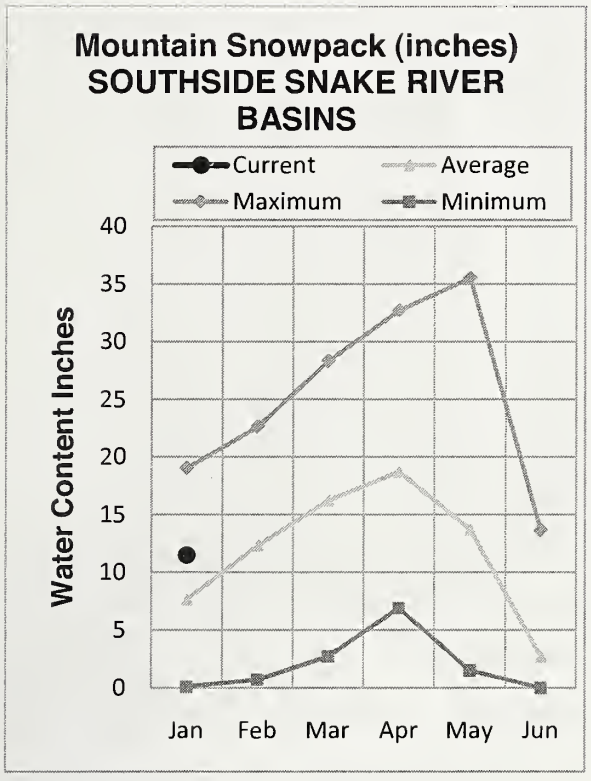
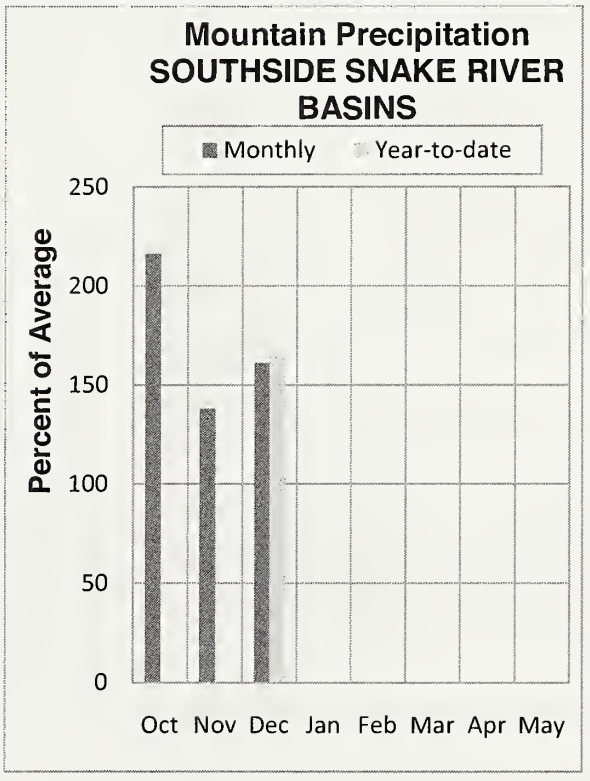
SOUTHSIDE SNAKE RIVER BASINS

JANUARY 1, 2011





WATER SUPPLY OUTLOOK

For the second year in a row the storm track is favoring the southernmost portion of Idaho. Precipitation across the Southside Snake basins is 164% of average since October, tying the Bear Basin for the highest amount in the state. October-December precipitation totals had record or near record amounts at some SNOTEL sites in the Owyhee, Salmon Falls and Bruneau basins based on 30 years of data. In the Owyhee basin, South Mountain and Taylor Canyon SNOTEL sites posted new records and Mud Flat had its second highest year, 1984 being wetter. In the Salmon Falls Basin, Magic Mountain (30 years of data) and Wilson Creek (21 years of data) SNOTEL sites also set new records. In the Bruneau basin, Bear Creek and Pole Creek SNOTEL sites had the second wettest October-December on record, only 1984 featured greater precipitation totals. Snowpacks across the Southside basins are 148% of average in the Owyhee, 155% in the Bruneau, 141% in Salmon Falls, 120% in the Goose-Trapper Creek drainages and 180% of average in the Raft River. Remarkably, the snowpack in the Owyhee and Bruneau basins is already at their normal February 1 amounts. However, reservoir storage is below average in the region with 54% of average in Owyhee Reservoir, 60% in Oakley and 70% in Salmon Falls. Thanks to the abundant rain and snow, streamflow forecasts are well above average, ranging from 107-154% of average. The current conditions look favorable for an adequate water supply in 2011, especially if the storm track continues to deliver snow.

On a side note, during the summer of 2010 the NRCS added George Creek (UT) SNOTEL in the headwaters of the Raft River to its monitoring network. As a result, the Raft River was added to the Idaho SNOTEL Update Reports and the Oakley basin was renamed Goose basin. The new Goose basin does not include Howell Canyon SNOTEL since its runoff contribution is downstream of Oakley Dam. We hope these changes will help locals better monitor their water supply.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Oakley Res Inflow	MAR-JUL	20	31	39	115	48	64	34
	MAR-SEP	22	33	42	114	52	68	37
Goose Ck ab Trapper Ck nr Oakley	MAR-JUL	25	32	37	143	42	49	26
	MAR-SEP	26	34	39	130	44	52	30
Trapper Ck nr Oakley	MAR-JUL	6.1	7.2	7.9	110	8.6	9.7	7.2
	MAR-SEP	7.4	8.5	9.3	107	10.1	11.2	8.7
Salmon Falls Ck nr San Jacinto	MAR-JUN	85	114	136	153	160	199	89
	MAR-JUL	89	119	143	154	169	210	93
	MAR-SEP	92	124	148	151	174	217	98
Bruneau R nr Hot Springs	MAR-JUL	205	280	335	143	395	495	235
	MAR-SEP	215	290	350	140	415	515	250
Owyhee R nr Gold Ck (2)	MAR-JUL	20	32	40	125	48	60	32
	MAR-SEP	22	34	42	136	50	62	31
Owyhee R nr Rome	FEB-JUL	615	845	1000	153	1160	1390	655
	FEB-SEP	635	870	1030	153	1190	1420	675
Owyhee R bl Owyhee Dam (2)	FEB-JUL	595	855	1060	151	1290	1660	700
	FEB-SEP	630	895	1100	151	1330	1700	730
Reynolds Ck at Tollgate	MAR-JUL	6.0	9.3	12.0	124	15.0	20	9.7

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	75.6	15.5	22.2	25.7
SALMON FALLS	182.6	36.6	42.1	52.6
WILDHORSE RESERVOIR	71.5	29.5	27.5	37.8
OWYHEE	715.0	214.9	159.9	398.1
BROWNLEE	1420.0	1311.1	1295.9	1303.0

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - January 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	1	197	180
Goose-Trapper Creeks	3	178	143
Salmon Falls Creek	6	212	141
Bruneau River	5	245	155
Reynolds Creek	0	0	0
Owyhee Basin Total	7	186	148

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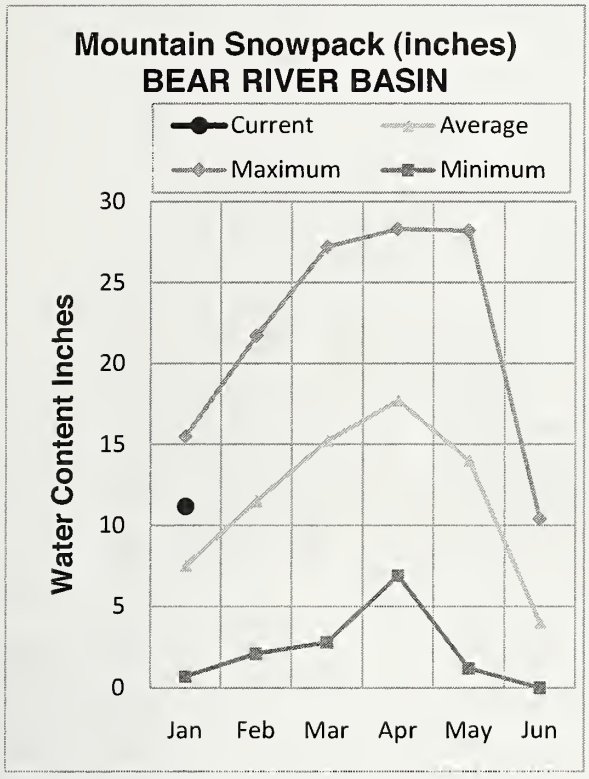
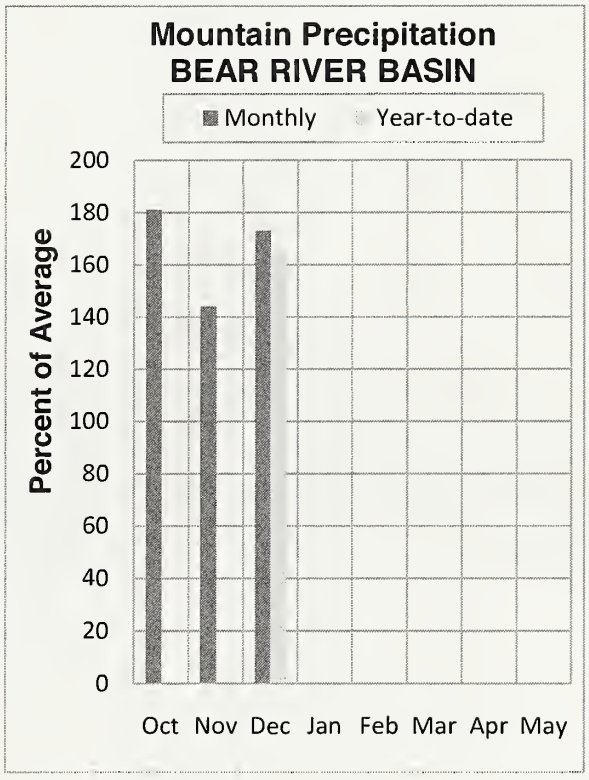
BEAR RIVER BASIN

JANUARY 1, 2011





WATER SUPPLY OUTLOOK

Like the neighboring southern Idaho basins, the Bear River basin's snowpack is well above average at 149% of average, while last year the snow was only 53% of normal on January 1. This neck of the woods has received some unusually big snowfalls since the beginning of the water year, while the rest of Idaho missed out. The water year-to-date precipitation is a whopping 164% of average, one of the highest in the state! The most recent Sierra storms kept the large snowpack momentum going and delivered more impressive snowfalls for this region (as well as the southern Rockies) during the last week of December. The precipitation for the entire month of December came in at 173% of average for the Bear River basin; this is good news after the last few years of dry conditions and low snowpacks. Based on current weather trends, the water supply picture is looking good for the Bear River basin's water users. Streamflow forecasts are in the 125-150% of average range for all the rivers in the Bear watershed. The lowest streamflow forecast is predicted for Smiths Fork near the Border at 124% while the greatest forecast is 148% of average for Little Bear River at Paradise. Water storage at Bear Lake is at a similar level as last year with the storage at 36% of capacity and 57% of average.

BEAR RIVER BASIN
Streamflow Forecasts - January 1, 2011

Forecast Point	Forecast Period	<<= Drier = Future Conditions = Wetter =>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear R nr UT-WY State Line	APR-JUL	110	136	154	136	172	198	113
	APR-SEP	132	160	180	144	200	230	125
Bear R abv Resv nr Woodruff	APR-JUL	123	160	185	136	210	245	136
	APR-SEP	137	175	200	141	225	265	142
Big Ck nr Randolph	APR-JUL	4.4	5.9	7.0	143	8.1	9.6	4.9
Smiths Fork nr Border	APR-JUL	93	115	130	126	145	167	103
	APR-SEP	109	133	150	124	167	191	121
Bear R bl Stewart Dam	APR-JUL	153	245	310	133	375	465	234
	APR-SEP	183	290	360	137	430	535	262
Little Bear at Paradise	APR-JUL	38	56	68	148	80	98	46
Logan R nr Logan	APR-JUL	110	143	165	131	187	220	126
Blacksmith Fk nr Hyrum	APR-JUL	44	59	70	146	81	96	48

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	516.1	525.8	907.5
MONTPELIER CREEK	4.0	2.0	2.4	1.7

BEAR RIVER BASIN
Watershed Snowpack Analysis - January 1, 2011

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	3	268	140
Bear River ab WY-ID line	9	288	166
Montpelier Creek	1	384	162
Mink Creek	1	364	160
Cub River	1	335	179
Bear River ab ID-UT line	15	304	163
Malad River	1	405	165

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: streamflow forecasts are projections of runoff volumes that would occur without influences from upstream reservoirs or diversions. These values are referred to as natural, unregulated or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made for each forecast point. **(Revised Nov. 2007).**

Panhandle River Basins

Kootenai R at Leonia, ID
+ Lake Koocanusa (Storage Change)

Boundary Ck nr Porthill, ID – No Corrections

Moyie R at Eastport, ID – No Corrections

Smith Creek nr Porthill, ID – No Corrections

Clark Fork R at Whitehorse Rapids, ID
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids Resv (Storage Change)

Pend Oreille Lake Inflow, ID
+ Pend Oreille R at Newport, WA
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids (Storage Change
+ Pend Oreille Lake (Storage Change)
+ Priest Lake (Storage Change)

Priest R nr Priest R, ID
+ Priest Lake (Storage Change)

NF Coeur d'Alene R at Enaville, ID - No Corrections

St. Joe R at Calder, ID - No Corrections

Spokane R nr Post Falls, ID
+ Coeur d'Alene Lake (Storage Change)

Spokane R at Long Lake, WA
+ Coeur d'Alene Lake (Storage Change)
+ Long Lake, WA (Storage Change)

Clearwater River Basin

Selway R nr Lowell - No Corrections

Lochsa R nr Lowell - No Corrections

Dworshak Resv Inflow, ID
+ Clearwater R nr Peck, ID
- Clearwater R at Orofino, ID
+ Dworshak Resv (Storage Change)

Clearwater R at Orofino, ID - No Corrections

Clearwater R at Spalding, ID
+ Dworshak Resv (Storage Change)

Salmon River Basin

Salmon R at Salmon, ID - No Corrections

Lemhi R nr Lemhi, ID – No Corrections

MF Salmon R at MF Lodge, ID – No Corrections

Salmon R at White Bird, ID - No Corrections

Weiser, Payette, Boise River Basins

Weiser R nr Weiser, ID - No Corrections

SF Payette R at Lowman, ID - No Corrections

Deadwood Resv Inflow, ID
+ Deadwood R blw Deadwood Resv nr Lowman
+ Deadwood Resv (Storage Change)

Lake Fork Payette R nr Mccall, ID – No Corrections

NF Payette R at Cascade, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)

NF Payette R nr Banks, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)

Payette R nr Horseshoe Bend, ID
+ Cascade Resv (Storage Change)
+ Deadwood Resv (Storage Change)
+ Payette Lake (Storage Change)

Boise R nr Twin Springs, ID - No Corrections

SF Boise R at Anderson Ranch Dam, ID
+ Anderson Ranch Resv (Storage Change)

Boise R nr Boise, ID
+ Anderson Ranch Resv (Storage Change)
+ Arrowrock Resv (Storage Change)
+ Lucky Peak Resv (Storage Change)

Wood and Lost River Basins

Big Wood R at Hailey, ID - No Corrections

Big Wood R abv Magic Resv, ID
+ Big Wood R nr Bellevue, ID
+ Willow Ck

Camas Ck nr Blaine – No Corrections

Big Wood R blw Magic Dam nr Richfield, ID
+ Magic Resv (Storage Change)

Little Wood R abv High Five Ck, ID – No Corrections

Little Wood R nr Carey, ID
+ Little Wood Resv (Storage Change)

Big Lost R at Howell Ranch, ID - No Corrections

Big Lost R blw Mackay Resv nr Mackay, ID
+ Mackay Resv (Storage Change)

Little Lost R blw Wet Ck nr Howe, ID - No Corrections

Upper Snake River Basin

Henrys Fork nr Ashton, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)

Henrys Fork nr Rexburg, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)
+ Grassy Lake (Storage Change)
+ Diversions from Henrys Fk btw Ashton to St. Anthony, ID
+ Diversions from Henrys Fk btw St. Anthony to Rexburg, ID
+ Diversions from Falls R abv nr Ashton, ID
+ Diversions from Falls R nr Ashton to Chester, ID

Falls R nr Ashton, ID
+ Grassy Lake (Storage Change)
+ Diversions from Falls R abv nr Ashton, ID

Teton R nr Driggs, ID - No Corrections

Teton R nr St. Anthony, ID
- Cross Cut Canal into Teton R
+ Sum of Diversions for Teton R abv St. Anthony, ID

Snake R nr Moran, WY
+ Jackson Lake (Storage Change)

Pacific Ck at Moran, WY – No Corrections

Buffalo Fork ab Lava Ck nr Moran, WY – No Corrections

Gros Ventre R at Kelly, WY – No Corrections

Snake R abv Palisades, WY
+ Jackson Lake (Storage Change)
Greys R abv Palisades, WY – No Corrections
Salt R abv Palisades, WY – No Corrections
Snake R nr Irwin, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Snake R nr Heise, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Willow Ck nr Ririe, ID
+ Ririe Resv (Storage Change)
Blackfoot R ab Res nr Henry
+ Blackfoot Reservoir releases
+ Blackfoot Resv (Storage Change
Portneuf R at Topaz, ID - No Corrections
Snake River at Neeley, ID
+ Snake River at Neeley (observed)
+ All Corrections made for Henrys Fk nr Rexburg, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
+ Diversions from Snake R btw Heise and Shelly
+ Diversions from Snake R btw Shelly and Blackfoot

Southside Snake River Basins

Oakley Resv Inflow, ID
+ Goose Ck abv Trapper Ck
+ Trapper Ck nr Oakley
(Does not include inflow from Birch Creek)
Salmon Falls Ck nr San Jacinto, NV - No Corrections
Bruneau R nr Hot Springs, ID - No Corrections
Owyhee R nr Gold Ck, NV
+ Wildhorse Resv (Storage Change)
Owyhee R nr Rome, OR – No Corrections
Owyhee R blw Owyhee Dam, OR
+ Owyhee R blw Owyhee Dam, OR (observed)
+ Owyhee Resv (Storage Change)
+ Diversions to North and South Canals
Snake R at King Hill, ID - No Corrections
Snake R nr Murphy, ID - No Corrections
Snake R at Weiser, ID - No Corrections
Snake R at Hells Canyon Dam, ID
+ Brownlee Resv (Storage Change)

Bear River Basin

Bear R nr UT-WY Stateline, UT – No Corrections
Bear R abv Resv nr Woodruff, UT – No Corrections
Smiths Fork nr Border, WY - No Corrections
Bear R blw Stewart Dam nr Montpelier, ID
+ Bear R blw Stewart Dam
+ Rainbow Inlet Canal

Reservoir Capacity Definitions (Units in 1,000 Acre-Feet, KAF)

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. **(Revised Dec. 2005)**

Basin/ Reservoir	Dead Storage	Inactive Storage	Active Storage	Surcharge Storage	NRCS Capacity	NRCS Capacity Includes
Panhandle Region						
Hungry Horse	39.73	---	3451.00	---	3451.0	Active
Flathead Lake	Unknown	---	1791.00	---	1791.0	Active
Noxon Rapids	Unknown	---	335.00	---	335.0	Active
Pend Oreille	406.20	112.40	1042.70	---	1561.3	Dead+Inactive+Active
Coeur d'Alene	---	13.50	225.00	---	238.5	Inactive+Active
Priest Lake	20.00	28.00	71.30	---	119.3	Dead+Inactive+Active
Clearwater Basin						
Dworshak	---	1452.00	2016.00	---	3468.0	Inactive+Active
Weiser/Boise/Payette Basins						
Mann Creek	1.61	0.24	11.10	---	11.1	Active
Cascade	---	46.70	646.50	---	693.2	Inactive+Active
Deadwood	---	---	161.90	---	161.9	Active
Anderson Ranch	24.90	37.00	413.10	---	450.1	Inactive+Active
Arrowrock	---	---	272.20	---	272.2	Active
Lucky Peak	---	28.80	264.40	13.80	293.2	Inactive+Active
Lake Lowell	7.90	5.80	159.40	---	165.2	Inactive+Active
Wood/Lost Basins						
Magic	Unknown	---	191.50	---	191.5	Active
Little Wood	---	---	30.00	---	30.0	Active
Mackay	0.13	---	44.37	---	44.4	Active
Upper Snake Basin						
Henrys Lake	---	---	90.40	---	90.4	Active
Island Park	0.40	---	127.30	7.90	135.2	Active+Surcharge
Grassy Lake	---	---	15.18	---	15.2	Active
Jackson Lake	Unknown	---	847.00	---	847.0	Active
Palisades	44.10	155.50	1200.00	---	1400.0	Dead+Inactive+Active
Ririe	4.00	6.00	80.54	10.00	80.5	Active
Blackfoot	---	---	348.73	---	348.7	Active
American Falls	---	---	1672.60	---	1672.6	Active
Southside Snake Basins						
Oakley	---	---	75.60	---	75.6	Active
Salmon Falls	48.00	5.00	182.65	---	182.6	Active+Inactive
Wildhorse	---	---	71.50	---	71.5	Active
Owyhee	406.83	---	715.00	---	715.0	Active
Brownlee	0.45	444.70	975.30	---	1420.0	Inactive+Active
Bear River Basin						
Montpelier Creek	0.21	---	3.84	---	4.0	Dead+Active
Bear Lake	5.0 MAF	119.00	1302.00	---	1421.0	Active+Inactive: Includes 119 that can be released

Interpreting Water Supply Forecasts

Introduction
Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1971-2000. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of having more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of .having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce the risk of having more water than planned for, users can base their operational decisions on one of the forecasts with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the forecasts - an Example
Using the 50 Percent Exceedance Forecast. Using the example forecasts shown below, there is a 50% chance that actual streamflow volume at the Boise River near Twin Springs will be less than 685 KAF between April 1 and July 31. There is also a 50% chance that actual streamflow volume will be greater than 685 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause problems (such as irrigated agriculture), users might want to plan on receiving 610 KAF (from the 70 percent exceedance forecast). There is a 30% ehance of receiving *less* than 610 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 443 KAF (from the **90** percent exceedance forecast). There is 10% chance of receiving less than 443 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 760 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving *more* than 760 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 927 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 927 KAF.

Users could also choose a volume in between any of these values to reflect their desired risk level.

Weiser, Payette, Boise River Basins
Streamflow Foreeasts – January 2006

Forecast Point	Forecast Period	Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000 AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	690

*90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table

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